

#### ABSTRACT OF THE DISCLOSURE

A water treatment system provides treated or softened water to a point of use by removing a portion of any hardness-causing species contained in water from a point-of-  
5 entry coming from a water source, such as municipal water, well water, brackish water and water containing foulants. The water treatment system typically treats the water containing at least some undesirable species before delivering the treated water to a point of use. The water treatment system has a controller for adjusting or regulating at least one operating parameter of the treatment system or a component of the water treatment system to optimize  
10 the operation and performance of the system or components of the system. A flow regulator regulates a waste stream flow to drain and can be operated to recirculate fluid through electrode or concentrating compartments of an electrochemical device and can opened and closed intermittently according to a predetermined schedule or based on an operating parameter of the water treatment system. The flow regulator can also be charged so that  
15 ionic species can be generated in the surrounding fluid, which, in turn, can lower the pH of the surrounding fluid.